

What is claimed is:

- 1 1. A digital content file including a license control mechanism for controlling the licensed
2 use of digital content, comprising:
 - 3 a digital content, and
 - 4 an embedded file access control mechanism embedded in the digital content file,
5 including
 - 6 a license functions mechanism embedded in the digital content file and
7 including
 - 8 a license monitor and control mechanism communicating with a
9 dynamic license database and monitoring use of the digital content by a user to determine
10 whether a use of the digital content by a user complies with the license defined in the
11 dynamic license database, and
 - 12 a license control utility providing communications between a user
13 system and an external system to communicate license definition information between the
14 user system and the external system, including
 - 15 a graphical user interface associated with the license control
16 utility to provide communication between a user and user accessible functions of the
17 license functions mechanism, and
 - 18 the dynamic license database wherein the dynamic license database is associated
19 with the digital content file for storing information controlling operations of the file access
20 control mechanism and license information controlling licensed use of the digital content.
 - 1 2. The digital content file including a license control mechanism for controlling the
2 licensed use of digital content of claim 1, wherein the information contained in the
3 dynamic license database and controlling licensed use of the digital content includes:
 - 4 user accessible information defining a license available to a user and controlling
5 use of the digital contents by the user.
 - 1 3. The digital content file including a license control mechanism for controlling the
2 licensed use of digital content of claim 2, wherein the information contained in the

dynamic license database and controlling licensed use of the digital content further includes:

- license purchase information defining the terms of purchase of at least one license available to a user, and
- the license control utility and license monitor and control mechanism are responsive to user input through the graphical user interface for
 - accessing the purchase information in the dynamic license database,
 - accessing the user system to obtain system information identifying the user system in which the digital content is to be used,
 - communicating purchase information for a license selected from the at least one license defined therein to an external system,
 - receiving from the external system license information corresponding to the purchase information, and
 - writing the license information into the dynamic license database for use by the license monitor and control mechanism in controlling licensed use of the digital content by the user.

4. The digital content file including a license control mechanism for controlling the licensed use of digital content of claim 2, wherein:

- the license information contained in the dynamic license database for controlling licensed use of the digital content further defines license conditions for use of the digital content in a user system,
- the license control utility and license monitor and control mechanism are responsive to user input through the graphical user interface requesting activation of the license defined in the dynamic license database for
 - accessing the user system to obtain system information identifying the user system in which the digital content is to be used,

controlling the licensed use of digital content and wherein the digital content of the digital content file includes executable code, comprising the steps of:

generating a reconstructed executable code by,
extracting from the executable code information identified as critical and
necessary to the execution of the executable code, and
inserting links to a wrapper dynamic linked library,
the wrapper dynamic linked library including
a control dynamic linked library containing control
functions for the display and behavior of options for license purchase and generation, and
a main dynamic linked library including,
a license functions mechanism, and
the extracted information identified as critical and
necessary to execution of the executable code,
generating an encrypted reconstructed executable code by encrypting the
executable code of the reconstructed executable code and the links inserted into the
reconstructed executable code,
generating an encrypted wrapper dynamic linked library by encrypting the
wrapper dynamic linked library, and
constructing a product installer by combining the encrypted reconstructed
executable code, the encrypted wrapper dynamic linked library, a dynamic license
database, and a license decrypt/extraction mechanism.

17. The method of claim 16 for constructing a digital content file including an embedded file access control mechanism for controlling the licensed use of digital content wherein the digital content of the digital content file includes executable code, wherein the embedded file access control mechanism includes:

the dynamic license database for storing information controlling operations of the file access control mechanism and license information controlling licensed use of the digital content, and

the license functions mechanism, wherein the license functions mechanism includes

- a license monitor and control mechanism communicating with the dynamic license database and monitoring use of the digital content by a user to determine whether a use of the digital content by a user complies with the license defined in the dynamic license database, and
- a license control utility providing communications between a user system and an external system to communicate license definition information between the user system and the external system, including
- a graphical user interface associated with the license control utility to provide communication between a user and user accessible functions of the license functions mechanism.

18. A method for installing a digital content file in a user system wherein the digital content file resides in a product installer and includes an embedded file access control mechanism for controlling the licensed use of digital content, a dynamic license database for storing information controlling operations of the file access control mechanism and use of the digital content and wherein the digital content of the digital content file includes executable code, comprising the steps of:

- decrypting and extracting the contents of an encrypted wrapper dynamic linked library wherein the dynamic linked library includes
- a control dynamic linked library containing control functions for the display and behavior of options for license purchase and generation, and
- a main dynamic linked library including,
 - a license functions mechanism, and
 - extracted information identified as critical and necessary to execution of the executable code,
- storing the license functions mechanism in the user system,

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5 intercepting an attempt to access the digital content and validating licensed
6 access of the digital content by

7 determining whether a dynamic license database associated with the
8 file access control mechanism contains license information defining a license controlling
9 user of the digital contents,

10 determining whether the user system complies with a license
11 defined by license information contained in the dynamic license database, and

12 when the user system complies with a license defined by license
13 information contained in the dynamic license database,

14 allowing access to the executable code and to information extracted
15 from the executable code and stored in a main dynamic linked library associated with the
16 file access control mechanism.

1 22. A method for constructing a digital content file to be installed in a user system
2 wherein the digital content file includes an embedded file access control mechanism for
3 controlling the licensed use of digital content and wherein the digital content of the digital
4 content file includes data, comprising the steps of:

5 generating an encrypted contents by encrypting the digital contents,
6 generating an encrypted products information containing information used in
7 obtaining license information controlling use of the digital contents,
8 generating a digital content file containing the encrypted contents and the
9 encrypted products information and generating an encrypted digital content file by
10 encrypting the digital content file, and

11 generating an installable executable containing the encrypted digital content file
12 and an embedded file access control mechanism including a decrypting mechanism.

1 23. The method of claim 22 for constructing a digital content file including an embedded
2 file access control mechanism for controlling the licensed use of digital content wherein
3 the digital content of the digital content file includes executable code, wherein the
4 embedded file access control mechanism includes:

5 a license functions mechanism, wherein the license functions mechanism includes
6 a license monitor and control mechanism communicating with a dynamic
7 license database and monitoring use of the digital content by a user to determine whether a
8 use of the digital content by a user complies with the license defined in the dynamic
9 license database, and

10 a license control utility providing communications between a user system
11 and an external system to communicate license definition information between the user
12 system and the external system, including

13 a graphical user interface associated with the license control utility
14 to provide communication between a user and user accessible functions of the license
15 functions mechanism,

16 the decryption mechanism, and

17 a dynamic license database that is associated with the file access control
18 mechanism for storing information controlling operations of the file access control
19 mechanism and license information controlling licensed use of the digital content.

1 24. A method for installing a digital content file in a user system wherein the digital
2 content file wherein the digital content includes data and is contained in an installable
3 executable containing an encrypted digital content file and an embedded file access
4 control mechanism including a decrypting mechanism, comprising the steps of:

5 executing the installable executable to
6 store the file access control mechanism and the encrypted digital content
7 file in the user system.

1 25. The method of claim 24 for installing a digital content file in a user system wherein
2 the digital content includes data and is contained in an installable executable containing an
3 encrypted digital content file and an embedded file access control mechanism including a
4 decrypting mechanism, further comprising the steps of:

invoking the file access control mechanism to determine whether the dynamic license database contains information defining a license controlling use of the digital content in the user system, and
when the dynamic license database does not contain information defining a license controlling use of the digital content, executing operations defined by information in the dynamic license database and controlling operations of the file access control mechanism for obtaining license information defining a license controlling use of the digital content in the user system.

26. A method for accessing the digital content of a digital content file in a user system wherein the digital content file wherein the digital content includes data contained in an encrypted digital content file and the digital content file includes an embedded file access control mechanism including a decrypting mechanism, comprising the steps of:

in the file access control mechanism,
intercepting an attempt to access the digital content and validating licensed access of the digital content by
determining whether a dynamic license database associated with the file access control mechanism contains license information defining a license controlling user of the digital contents,
when the dynamic license database contains information defining a license controlling use of the digital content,
decrypting encrypted product information contained in the encrypted digital content file and determining whether the user system complies with a license defined by license information contained in the dynamic license database, and
when the user system complies with a license defined by license information contained in the dynamic license database,
decrypting the digital contents from the encrypted digital content file and providing the digital contents to the user system.

27. The method for accessing the digital content of a digital content file in a user system of claim 26, wherein:

an application in the user system is designated to access at least one designated type of digital content file, and

the file access control mechanism includes a monitor to intercept attempts to open digital content files of the at least one designated type by the application and to invoke the file access control mechanism to execute the steps for validating licensed access of the digital content.

28. A method for distributing a digital content file including a license control mechanism for controlling the licensed use of digital content of the digital content file, comprising the steps of:

preparing a licensable digital content file, containing
a digital content,
an embedded file access control mechanism, including
a license functions mechanism including
a license monitor and control mechanism communicating
with a dynamic license database for monitoring use of the digital content by a user to
determine whether a use of the digital content by a user complies with the license defined
in the dynamic license database,

an adaptive fingerprint security mechanism for accessing a user system and determining fingerprint information identifying the user system, and a license control utility providing communications between a user system and an external system to communicate license definition information between the user system and the external system, including

a graphical user interface associated with the license control utility to provide communication between a user and user accessible functions of the license functions mechanism, and

wherein the step of executing the requirements defined in the initial license information to obtain license information defining a license allowing use of the digital contents further includes the steps of:

- in the user system, and by operation of the file access control mechanism generating a request for a license containing user system information, including system fingerprint information and providing the request to the product configuration and order database,
- in the product configuration and order database, reading the license management database corresponding to the digital content file and request and generating license information defining a license for use of the digital content in the user system,
- providing the license information defining a license for use of the digital content in the user system to the user system, and
- in the user system, and by operation of the file access control mechanism, writing the license information into the dynamic license database to define a license for use of the digital content in the user system.

30. The method of claim 29 for distributing a digital content file including a license control mechanism for controlling the licensed use of digital content of the digital content file, further comprising the steps of:

in the user system,
intercepting an attempt to access the digital content and validating licensed access of the digital content by
determining whether the dynamic license database contains license information defining a license controlling user of the digital contents, and
when the dynamic license database contains information defining a license controlling use of the digital content,
accessing the user system to obtain current system fingerprint information identifying the user system,

13 determining whether the user system complies with a
14 license defined by license information contained in the dynamic license database,
15 including determining whether the current system fingerprint information corresponds
16 with the system fingerprint information stored in the dynamic license database within a
17 predetermined range of tolerance, and

18 when the user system complies with a license defined by license
19 information contained in the dynamic license database,

20 allowing the user system access to the digital contents.

1 31. A method for providing a license for use of digital content in a digital content file
2 residing in a user system wherein the digital content file includes an embedded file access
3 control mechanism for controlling the licensed use of digital content of the digital content
4 file, the file access control mechanism including a license functions mechanism including
5 a license monitor and control mechanism, an adaptive fingerprint security mechanism, and
6 a license control utility, including a graphical user interface, and a dynamic license
7 database associated with the digital content file for storing information controlling
8 operations of the file access control mechanism and license information controlling
9 licensed use of the digital content, comprising the steps of:

10 in the user system, and by operation of the file access control mechanism

11 generating a purchase request for a license containing user system
12 information wherein the purchase request includes system fingerprint information and
13 financial information relating to the purchase of a license, and

14 providing the request an order processing system,

15 in the order processing system,

16 generating an order identification and authorization for a license, and

17 providing the order identification and authorization and the purchase
18 request to a product configuration and order database containing at least one license
19 management database associated with the digital content file and containing license

20 information for controlling use of the digital content file in compliance with a license
21 defined by the license information, and
22 in the product configuration and order database,
23 reading the license management database corresponding to the
24 digital content file and generating license information defining a license for use of the
25 digital content in the user system,
26 providing the license information defining a license for use of the
27 digital content in the user system to the user system, and
28 in the user system, and by operation of the file access control mechanism,
29 writing the license information into the dynamic license database to
30 define a license for use of the digital content in the user system.

1 32. The method of claim 31 for providing a license for use of digital content in a digital
2 content file residing in a user system wherein the digital content file includes an
3 embedded file access control mechanism for controlling the licensed use of digital content
4 of the digital content file, further comprising the step of:
5 in the product configuration and order database,
6 generating a license record of the order identifier and license information
7 provided to the user system.